SEMESTER END EXAMINATION JUNE-2023

Course Name: - B.Tech (Mechanical Engineering) **Semester:- 4th**

Paper Name: - Manufacturing Science-I **Paper Code:- TME 403**

Time - 3 Hrs + 20 minutes per hour extra time for V.I. & examinees with writer. **Max Marks-70**

समय– 3 घण्टे + 20 मिनट प्रति घंटे अतिरिक्त–दृष्टिबाधित एवं साह लेखक परीक्षार्थियों के लिए। अधिकतम अंक–70

Instructions:

- The question paper consists of three sections namely A, B, C. All sections are compulsory.
- Section A- Each question carries 3 mark. All questions are compulsory.
- Section B- Answer any 5 out of 7 given questions in maximum one hundred fifty (150) words. Each question carries 7 marks.
- Section C- Answer any 2 out of 3 given questions in maximum three hundred (300) words. Each question carries 10 marks.

निर्देश:

- प्रश्न पत्र में तीन खण्ड अ, ब, व स हैं। सभी खण्ड अनिवार्य हैं।
- खण्ड–अ में प्रत्येक प्रश्न तीन अंक का है। सभी प्रश्न अनिवार्य हैं।
- खण्ड–ब में सात प्रश्नों में से किन्हीं पाँच प्रश्नों के उत्तर अधिकतम 150 शब्दों में दें। प्रत्येक प्रश्न सात अंक का है।
- खण्ड–स में तीन प्रश्नों में से किन्हीं दो प्रश्नों के उत्तर अधिकतम 300 शब्दों में दें। प्रत्येक प्रश्न दस अंक का है।

Section – A (खण्ड–अ)

Objective Questions (वस्तुनिष्ठ प्रश्न)

1. Answer all the following questions. 5×3 =15

निम्नलिखित सभी प्रश्न अनिवार्य हैं।

i) Which of the following cannot be operated through cupola furnace?

a) Cast irons
b) Copper alloys
c) Bronze
d) Zinc ✓

ii) Which of the following component withstand the high temperature in casting process?

a) clay
b) moisture
c) water
d) silica ✓

iii) Misrun is a defect which occurs due to:

a) Pattern miss matching
b) Absorption of gases
c) Turbulence in molten metal
d) Lack of fluidity in the molten metal

iv) The operation in which oil is permeated into the pores of a powder metallurgy product is known as

a) Mixing
b) Sintering

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c) Infiltration
d) Impregnation

v) The depth that the tool is plunged into the surface is called as _____
a) Feed
b) Working Depth
c) Depth of Tool
d) Depth of Cut

Section – B (खण्ड–ब)
Short Answer Questions (लघुउत्तरीय प्रश्न)

2. Answer any five of the following questions in maximum 150 words. **5×7=35**
निम्नलिखित में से किन्हीं पाँच प्रश्नों के उत्तर अधिकतम 150 शब्दों में दें।

i) Differentiate between Brazing and Soldering with their applications.

ii) Differentiate between Hot and Cold working manufacturing process.

iii) Describe seven types of casting defects with sketch.

iv) Explain different types of pattern with sketch using in sand casting.

v) List out the different types of rolling defects with sketch.

vi) Distinguish between blanking and punching process.

vii) What is the use of power metallurgy process? Discuss the various steps involved in power metallurgy process.

Section – C (खण्ड–स)
Descriptive Questions (विवरणात्मक प्रश्न)

3. Answer any two of the following question in maximum 300 words. **2×10=20**
निम्नलिखित में से किन्हीं दो प्रश्नों के उत्तर अधिकतम 300 शब्दों में दें

i)Define MIG welding process with neat sketch what are its advantages and disadvantages

ii) Explain principle, construction and working of cupola furnace in a foundry. For which purpose this furnace is used?

iii) Give the comparison between NC, CNC and DNC.

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